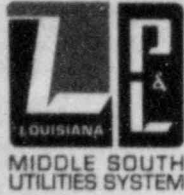


50-382



**LOUISIANA**  
POWER & LIGHT

317 BARONNE STREET • P.O. BOX 80340  
NEW ORLEANS, LOUISIANA 70160

• (504) 585-2204

August 27, 1984

J.M. CAIN  
President and  
Chief Executive Officer

W3B84-0475

Director of Nuclear Reactor Regulation  
ATTN: Mr. Darrell G. Eisenhut, Director  
Division of Licensing  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

SUBJECT: Waterford 3 SES  
Partial Response to Items  
from Waterford Review Team

- REFERENCES:
- 1) Letter, D.G. Eisenhut to J.M. Cain,  
"Waterford 3 Review," dated June 13, 1984
  - 2) Letter W3B84-0473, R.S. Leddick to D.G. Eisenhut,  
"Program Plan for Resolution of Pre-Licensing  
Issues" dated August 20, 1984

Dear Mr. Eisenhut:

The purpose of this letter is to submit Louisiana Power & Light's responses to issues 5, 7, and 21 as set forth in your June 13, 1984 letter (Reference 1). The responses follow the approach set forth in Attachment 1 to the Program Plan sent to you by LP&L on August 20, 1984 (Reference 2).

The responses have been reviewed and verified by LP&L QA in accordance with procedure QASP 19-13. The designated subcommittee of the Waterford Safety Review Committee also has reviewed the adequacy of the responses for resolving the issues raised. The subcommittee scope of responsibility does not include independent validation of the facts.

The Task Force has indicated by separate correspondence (enclosed) that it is satisfied with the logic of the responses, however, they have not yet completed their independent validation of the facts. The Task Force has committed to notifying me and the WRC immediately should they find significant deviations in the course of their validation. In the event of such notification, LP&L will amend individual responses as may be necessary.

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A PDR

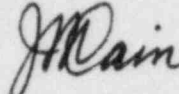
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Mr. Darrell G. Eisenhut, Director  
W3B84-0475  
August 27, 1984

Page 2

We request that you commence actions you deem necessary to lead to the resolution of these individual issues. Responses to the remaining issues will be submitted as they are prepared. We have revised our schedule for these submittals and currently expect to submit the majority of the remaining responses by mid-September.

Sincerely,



J.M. Cain

JMC:DA:pbs

Attachments

Mr. Darrell G. Eisenhut, Director  
W3B84-0475  
August 27, 1984

Page 3

cc: Mr. R.S. Leddick  
Mr. D.E. Dobson  
Mr. R.F. Burski  
Mr. K.W. Cook  
Mr. T.F. Gerrets  
Mr. A.S. Lockhart  
Mr. R.P. Barkhurst  
Mr. L. Constable  
USNRC - Waterford 3  
Mr. J.T. Collins  
U.S. Nuclear Regulatory Commission  
Region IV  
611 Ryan Plaza Suite 1000  
Arlington, TX 76011  
Mr. D. Crutchfield  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555  
Mr. G. Knighton, Chief  
Licensing Branch No. 3  
Division of Licensing  
Washington, D.C. 20555  
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Waterford 3 Investigation and  
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Mr. L. Shao  
Waterford 3 Civil/Structure Team  
Leader  
5650 Nicholson Ln.  
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Mr. J. Harrison  
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Region III  
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Mr. J.E. Gagliardo  
Director Of Waterford 3 Task  
Force  
Region IV  
611 Ryan Plaza Suite 1000  
Arlington, TX 76011  
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NUS Corporation  
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Gaithersburg, MD 20878  
Mr. R.L. Ferguson  
UNC Nuclear Industries  
P.O. Box 490  
Richland, WA 99352  
Mr. L.L. Humphreys  
UNC Nuclear Industries  
1200 Jadwin, Suite 425  
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Mr. G. Charnoff  
Shaw, Pittman, Potts &  
Trowbridge  
1800 M. St. N.W.  
Washington, D.C. 20555  
Dr. J. Hendrie  
50 Bellport Lane  
Bellport, NY 11713  
Mr. R. Douglass  
Baltimore Gas & Electric  
8013 Ft. Smallwood Road  
Baltimore, MD 21226  
Mr. M.K. Yates, Project Manager  
Ebasco Services, Inc.  
Two World Trade Center, 80th  
New York, NY 10048  
Mr. R. Christesen, President  
Ebasco Services, Inc.  
Two World Trade Center  
New York, NY 10048



910 CLOPPER ROAD  
GAITHERSBURG, MARYLAND 20878-1398  
(301) 258-8000

NUS-W3-A710  
August 23, 1984

Mr. J. M. Cain  
President and Chief Executive Officer  
Louisiana Power and Light Company  
317 Barrone Street  
New Orleans, Louisiana 70160

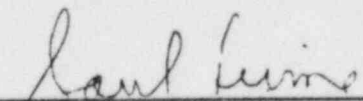
Reference: Letter from D. G. Eisenhut, Director, Division of Licensing,  
USNRC to J. M. Cain, President and Chief Executive Officer,  
LP&L, Waterford 3 Review, June 13, 1984

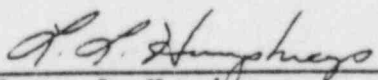
Dear Mr. Cain:

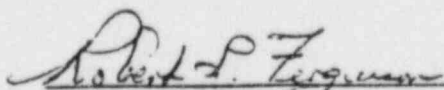
We understand that you plan to submit LP&L responses to the NRC covering  
Issues 5, 7 and 21 of the referenced letter.

The Task Force has no objection to this course of action. We have studied  
these issues and find the logic stated in the LP&L responses to be adequate.  
You should note that the Task Force has not yet completed its independent  
validation of the facts presented in the responses. We will notify you and  
the NRC immediately if we find significant deviations in the course of our  
continuing validation effort. Of course, as you know, our work on all 23  
issues and their collective significance is continuing and will culminate  
in a formal report to you.

Sincerely,

  
\_\_\_\_\_  
Saul Levine  
Vice President and  
Group Executive  
Consulting Group, NUS

  
\_\_\_\_\_  
Larry L. Humphreys  
President  
UNC Operations Division

  
\_\_\_\_\_  
Robert L. Ferguson  
Chairman  
UNC Nuclear Industries

SL/cn

## RESPONSE

ITEM NO. 5

TITLE: Vendor Documentation - Conditional Releases

### NRC DESCRIPTION OF CONCERN:

As a part of the staff review of the QA Program, the staff evaluated the Ebasco vendor QA program. In assessing this program, the staff specifically looked at the receipt inspection program and the conditional release system.

As a result of its evaluation, the staff found deficiencies with the handling of conditional certification of equipment (C of E) for Combustion Engineering supplied equipment. For example, one conditional C of E for the reactor vessel and internals was issued because as-built drawings, material certifications, and the fabrication plans had not been forwarded when the equipment was delivered to LP&L in 1976. The missing documents were sent to Ebasco sometime in 1978, according to the Ebasco quality records supervisor, but were apparently lost prior to being placed in the Ebasco document control system. The conditional certification of equipment was found when a check of all files was made in April or May 1984. The missing documents have been requested from CE, and a deficiency report was issued and placed on a master deficiency list. This problem has existed since July 20, 1976.

The safety significance of this is that problems with the vendor QA records could affect installed safety related equipment. LP&L shall examine their records and determine if all conditional certifications of equipment have been identified, reviewed and promptly resolved.

### DISCUSSION:

LP&L has reviewed their records to ensure that Conditional Certifications of Equipment and other conditional release conditions have been identified, reviewed and resolved. The following discussion outlines the results of the review which indicate that such conditions are adequately under control and do not constitute a situation adverse to the health and safety of the public.

#### Combustion Engineering

The quality records associated with Combustion Engineering material and equipment have been re-reviewed. The review concluded that Conditional Certifications of Equipment had been received for 45 purchase orders, and that for 31 of these, Combustion Engineering had provided Unconditional Certifications of Equipment prior to the audit. Ebasco Deficiency Report 84-5-3, was prepared and issued on May 1, 1984, identifying the items for which Unconditional Certifications have not been received. This Deficiency Report was entered into the site tracking system. The issuance of Conditional Certifications of Equipment is controlled under CE's QA program. Although the probability is considered very low, there is a possibility that the operability of equipment could have been affected. As described in CORRECTIVE ACTION, therefore, LP&L has committed to a review to make such a determination.

Subsequent to the audit, 13 additional Unconditional Certifications have been received including the replacement copy of the unconditional certification for the Reactor Vessel Assembly. The issues concerning the remaining items relate to revision of the design drawings in the technical manual and to the addition of a section to the technical manual to show the proper stack-up of subcomponents during reassembly. These issues are currently being prepared by the equipment vendor. Neither of these items will affect the ability to properly operate the equipment, which has been assembled and checked out by the vendor at the site. The Unconditional Certification for this equipment should be issued by September 15, 1984.

LP&L acknowledges that Combustion Engineering issued Conditional Certifications of Equipment associated with the Nuclear Steam Supply System (NSSS) that were not being formally tracked as open items.

The existence of Conditional Certifications of Equipment was not considered a problem based on the site's understanding that they reflected incompleting purchase orders as opposed to hardware or software deficiencies. This situation has existed since the original shipments of material and equipment from Combustion Engineering. The site did informally track the Conditional Certifications of Equipment as open items. In addition, letters were periodically sent to CE requesting the status and resolution of these items.

To provide further assurance, site activity associated with conditional certifications was assessed. As of August 7, 1984, LP&L operations has placed 69 purchase orders with CE for spare parts. Of these 69 purchase orders, one had a CE Conditional Certification. The equipment related to this Conditional Certification was issued to the plant on an LP&L QC Conditional Release in accordance with plant procedure QI-10-006.

#### Other Vendors and Contractors

To assess the potential for existence of other manufacturing open items not tracked in the site tracking system, the site's material receiving and control system was reviewed. It was found that the system was being properly implemented and that any problems identified during the material receiving quality control inspection and manufacturing records review were being properly tracked as Discrepancy Notices (DNs) and Deficiency Reports (DRs), respectively. However, it was realized that the potential for a similar situation existed in areas where problems are identified off-site relating to material to be shipped to the site. Based on this, three areas have the potential for similar situations, and were selected for additional evaluation:

- a) Concerns noted by Ebasco Vendor Quality Assurance Representatives (VQARs) on the Release for Shipment forms,
- b) Nonconformance Reports (NCRs) controlled by Ebasco's Home Office, and
- c) Material received at the site under manufacture, deliver and erect type contracts.

The evaluation conducted is described on Attachments 1, 2 and 3, respectively, and the results summarized as follows:

- a) A sample of 36 of a total of 118 Ebasco New York safety-related Purchase Orders for material/equipment were selected on a discipline-by-discipline (e.g.: Mechanical, Electrical, Instrumentation) basis and reviewed. This sample entailed approximately 750 shipments and approximately 11,000 items. No items adversely affecting plant safety were identified.
- b) The status of Ebasco Home Office NCRs was reviewed to ensure adequate on-site identification and control. The review concluded that there exists adequate on-site identification and control of Ebasco Home Office NCRs.
- c) The evaluation of all safety-related manufacture, deliver and erect type contracts is complete. No items adversely affecting plant safety were identified.

Therefore, based on this review, LP&L believes that vendor QA records are adequately administered.

CAUSE:

The reviews performed have indicated that the issue concerning the tracking of open items is limited to CE Conditional Certifications. The cause was identified as using informal rather than formal tracking methods. This was due to the perception that the problems underlying the Conditional Certifications were limited to commercial concerns.

GENERIC IMPLICATIONS:

LP&L has addressed this concern generically. A review was conducted, as described above, and it was determined that there exists adequate identification and control of vendor material being shipped to the site. Material tracking is currently being performed using detailed written procedures for materials received onsite both for the remaining construction activities and for plant operation activities.

SAFETY SIGNIFICANCE:

Based on the above evaluations, all items potentially affecting plant safety are being properly controlled on site.

CORRECTIVE ACTION PLAN/SCHEDULE:

Based on the CE records review outlined in this Response, any CE open items that have been identified are now formally tracked. Any new CE Conditional Certifications will also be formally tracked.

A review will be conducted of the Conditional Certifications which had been received for 45 CE purchase orders to determine if these conditions could have affected the operability of equipment. This review will be completed by September 30, 1984.

ATTACHMENTS:

- 1) Concerns Noted by VQARs on the Release for Shipment Forms
  - 1-A) Ebasco New York Safety Related Manufacturer Purchase Orders.
  - 1-B) POs Included in Scope of Audit.
- 2) NCRs Controlled by Ebasco's Home Office
  - 2-A) Comparison of NYO NCR Log to the MTS Closed NCR Printout
  - 2-B) NYO NCRs Requiring Verification of Disposition
  - 2-C) Audited NYO NCRs
- 3) Material Received at the Site Under Manufacture, Deliver and Erect Type Contracts.

REFERENCES:

None



ATTACHMENT 1

Concerns Noted by VQARs on the Release for Shipment Forms

To resolve the NRC concern and determine the basis for the sample audit of vendor documentation the following data base was generated.

A listing was generated of all New York Purchase Orders. This was generated on a discipline basis with the following guidelines:

Mechanical: ASME Code Class 1, 2, 3, MC and/or ANSI Safety Class 1, 2, 3 Purchase Orders.

Electrical: Class IE Purchase Orders.

Instrumentation & Control: ASME Code Class 1, 2, 3; ANSI Safety Class 1, 2, 3; IEEE Class IE and/or Seismic Category I Purchase Orders.

Architectural - Structural: Seismic Category I Purchase Orders.

Miscellaneous: ANSI Safety Class 1, 2, 3; ASME Code Class 1, 2, 3; IEEE Class IE and/or Seismic Category I Purchase Orders.

The Nuclear Steam Supply System (NY-403402 and Field Purchase Orders to CE) was reviewed in total during the audit. (See Attachment 1-A for the listing generated.)

Attachment 1-A lists all of the one hundred-eighteen (118) New York Office safety-related purchase orders. From this the sample size of 36 (30%) was chosen (see Attachment 1-B) for the breakdown of orders reviewed. The safety-related purchase order documentation packages identified on Attachment 1-B were researched.

During this review a single concern was identified. On purchase order number NY-403659, Material Receiving Inspection Report #83-00598 (FCR-E-3119) material was received and accepted on site with an outstanding Vendor Non-Conformance Report. The material (cable) was purchased on a Class IE Purchase Order, but was used in a Non-Nuclear Safety application. The disposition of this NCR (NY-586) required the implementation of the referenced FCR. The corrective action was considered a "paper change" only and, therefore, there is no safety significance.

ATTACHMENT 1-A

EBASCO New York Safety Related Manufacturer Purchase Orders\*

Mechanical	Electrical	I&C	Arch-Structural	Miscellaneous
403418 (2)	403447 (1E)	403470 (2,3)	403407 (I)	403514 (Radwaste - 2,I)
403422 (2/MC)	403454 (1E)	403485 (1E)	403480 (I)	403518 (Radwaste - 2,1E)
403431 (3)	403455 (1E)	403489 (1E)	403509 (I)	403543 (HVAC - 3)
403433 (1,2,3)	403463 (1E)	403492 (2,3)	403513 (I)	403547 (HVAC - 2)
403436 (2)	403472 (1E)	403499 (2,3)	403532 (I,3)	403548 (HVAC - 3)
403452 (3)	403487 (1E)	403502 (1,2,3)	403533 (I)	403549 (HVAC - 3)
403458 (1,2,3)	403495 (1E)	403519 (1E)	403573 (I)	403555 (HVAC - 2,3)
403461 (2,3)	403496 (1E)	403523 (1E)	403574 (I)	403556 (HVAC - 2,3)
403467 (3)	403497 (1E)	403565 (2,3)	403578 (I)	403557 (HVAC - 3)
403469 (1,2,3)	403503 (1E)	403585 (I)	403582 (I)	403558 (HVAC - 2,3)
403479 (3)	403516 (1E)	403588 (1E)	403584 (I)	403559 (HVAC - 2)
403482 (3)	430517 (1E)	403594 (I)	403592 (I)	403566 (HVAC - 3)
403483 (2,3)	403530 (1E)	403627 (I)	403593 (I)	403567 (HVAC - 3)
403484 (1,2,3)	403534 (1E)	403641 (2)	403608 (I)	403621 (Applied Physics - I)
403488 (2,3)	403535 (1E)	403642 (1,2,3)	403611 (I)	403639 (HVAC - 3)
403493 (2,3)	403536 (1E)	403649 (1E)	403613 (I)	403675 (Applied Physics - 1E)
403500 (2)	403550 (1E)	403681 (1,2)	403620 (I)	
403501 (2,3)	403552 (1E)	403688 (1,2,3)	403647 (I)	
403504 (3)	403615 (1E)	403694 (2,3)	403648 (I)	
403505 (2,3)	403623 (1E)	403802 (1E)		
403506 (1,2,3)	403625 (1E)			
403507 (1,2,3)	403638 (1E)			
403511 (1,2)	403640 (1E)			
403512 (3)	403644 (1E)			
403522 (3)	403657 (1E)			
403528 (3)	403659 (1E)			
403539 (2,3)				
403542 (2)				
403546 (2)				
403591 (I)				
403606 (1,2,3)				
403650 (3)				
403661 (2)				
403674 (1,2,3)				
403676 (1,2,3)				
403699 (1,1E)				
403801 (1,1E)				

\*Information in parentheses after P.O. number refers to the following safety related classes:

1,2,3 - ASME Code Class 1,2,3 and/or ANSI Safety Class 1,2,3

MC - ASME Code Class MC

1E - IEEE Class 1E

I - Seismic Category I

ATTACHMENT 1-B

POs Included in Scope of Audit

PURCHASE ORDER NUMBER	SAFETY RELATED CLASS	ELECTRICAL COMPONENT	# OF SHIPMENTS	
			(MRIRs) *	# OF ITEMS
NY403447	IE	5 and 15 KV Power Cable	25	72
NY403455	IE	480V Volt Power Centers	26	1,812
NY403463	IE	Storage Batteries	1	3
NY403496	IE	Electrical Penetrations	35	403
NY403497	IE	480 Volt Motor Control Centers	34	139
NY403516	IE	Static Uninterrupted Power Supply	6	28
NY403659	IE	Refueling Disconnect and Missile Shield Cable	55	1,111
<hr/>			182	3,568
7				SUB TOTAL

ARCHITECTURAL - STRUCTURAL

PURCHASE ORDER NUMBER	SAFETY RELATED CLASS	COMPONENT	# OF SHIPMENTS	
			(MRIRs)	# OF ITEMS
NY403407	I	Reactor Building Crane	10	5 (lots)
NY403582	I	Maintenance & Hatch Shielding Door	5	6
NY403584	I	Anchor Bolts & Anchor Studs	5	1,164
NY403613	I	RAB - Structural Steel	22	22 (lots)
NY403532	I,3	Misc. Shop Fabricated Tanks	2	6
<hr/>			44	1,203
5				SUB TOTAL

\* Material Receiving Inspection Report

ATTACHMENT 1-B  
(Continued)

MECHANICAL

PURCHASE ORDER NUMBER	SAFETY RELATED CLASS	COMPONENT	# OF SHIPMENTS (MRIRs)	# OF ITEMS
NY403422	2/MC	Containment Piping Penetrations	41	78
NY403458	1,2,3	2½" and Larger Stainless Station Valves	142	147
NY403469	1,2,3	2½" and Larger Stainless Steel Valves	8	8
NY403484	1,2,3	Control Valves	5	11
NY403506	1,2,3	600# and Higher Gate and Check Valves	70	656
NY403507	1,2,3	Stainless Steel Valves	30	177
NY403511	1,2	Safety and Relief Valves	23	29
NY403606	1,2,3	Control Valves and Accessories	8	50
NY403674	1,2,3	Line Service Solenoid Valves	8	39
NY403676	1,2,3	Self Contained Regulating Valves	1	8
NY403699	1,1E	Limit Switches	4	94
NY403801	1,1E	Pilot Solenoid Valves	2	51
12			342	1,348 SUB TOTAL

ATTACHMENT 1-B  
(Continued)

INSTRUMENTATION & CONTROL

PURCHASE ORDER NUMBER	SAFETY RELATED CLASS	COMPONENT	# OF SHIPMENTS (MRIRs)	# OF ITEMS
NY403485	1E	Differential Pressure Switches	15	136
NY403519	1E	Process Analog Control	83	3,684
NY403585	I	Local Instrument Cabinets & Racks	10	86
NY403627	1	Annubars	1	4
NY403642	1,2,3	Low Differential Pressure Transmitters	4	28
NY403681	1,2	Thermocouple Assemblies	4	291
NY403688	1,2,3	Low Differential Pressure Transmitters	4	39
7			121	4,268 SUB TOTAL

MISCELLANEOUS

PURCHASE ORDER NUMBER	SAFETY RELATED CLASS	COMPONENT	# OF SHIPMENTS (MRIRs)	# OF ITEMS
NY403518 (Radwaste)	2,1E	Hydrogen Analyzing	3	7
NY403547 (HVAC)	2	Check Valves	2	6
NY403556 (HVAC)	2,3	Electric Heating Coils	11	159
NY403559 (HVAC)	2	Containment Fan Coolers	10	24
NY403675 (Applied Physics)	1E	Accidental Radiation Monitoring/System	30	349
5			56	545 SUB TOTAL

ATTACHMENT 1-B  
(Continued)

SUMMARY

<u>DISCIPLINE</u>	<u># OF PURCHASE ORDERS AUDITED</u>	<u>SHIPMENTS</u>	<u>ITEMS</u>
ELECTRICAL	7	182	3,568
ARCH/STRUCT	5	44	1,203
MECHANICAL	12	342	1,348
I&C	7	121	4,268
MISCELLANEOUS	5	56	545
TOTAL	36	745	10,932

ATTACHMENT 2

NCRs Controlled by

Ebasco's Home Office

1. In June, 1984, a review of all NYO (New York Office) issued NCRs has been accomplished to determine if any NYO NCRs still open have been properly identified as open by the site in the Master Tracking System.

The result is that there is one NYO NCR still open (NCR 646), and it was and still is properly identified on the Master Tracking System as an open item. (See Attachment 2-A)

2. Concurrently, a review was also conducted to determine if NYO NCRs that required corrective action and Verification of Disposition were closed properly. The Criteria for correct closure were:
  - a) Item(s) repaired, replaced, or otherwise rendered correct before receipt at site.
  - b) Item(s) were identified as requiring corrective action upon receipt at site and tracked until accepted disposition was verified.

A total of 144 NCRs were identified as requiring Verification of Disposition. A sample of 20 were reviewed. One concern was noted. The Temporary Fuel Storage Racks should have been identified as having incomplete documentation (analysis of fuel drop impact) when received on 5/21/81. NCR 628 was not issued until 11/10/83 to identify the problem and implement a solution. DCN-NY-AS-758 was issued on 3/14/84 and Station Modification Package 84-133 was issued on 4/4/84 to implement the corrective action. This item has been properly tracked since the issuance of NCR 628. Temporary Fuel Storage Racks will not be used until installation of modifications described in SMP 84-133 is complete. There is no safety implication.

Therefore, the QA process for controlling NYO NCRs requiring corrective action and Verification of Disposition is acceptable.

ATTACHMENT 2-A

Comparison of NYO NCR Log  
to the MTS Closed NCR Printout

Comparison:

1. - All items listed in MTS as closed were also listed as closed in NYO NCR log.

Problems Identified:

- a) NCR 30 was listed as closed in MTS and NCR 30 was superseded by NCR 40 per NYO NCR log. NCR 30 and the closed copy of NCR 40 are located in the correct file under P.O. NY403405 in the QA Records Vault.
- b) NCR 576 was listed as voided in MTS. NCR 576 was closed per NYO NCR log. The closed copy of NCR 576 is located in the correct file under P.O. NY403458 in the QA Records Vault.

The NYO NCR log was correct in both cases. The errors do not affect the validity of closed status. MTS has been updated.

Comparison:

2. - There were 111 NCRs indicated as being closed in the NYO NCR log but were not listed in MTS. As MTS only tracks those NCRs which require corrective action by the site, a 100% review of these NCRs was performed. NCRs which required corrective action are closed and located in the files in the QA Records Vault.

Problems Identified:

None



ATTACHMENT 2-B

NYO NCRs Requiring Verification of Disposition

011	* 133	251	349	390R1
012	136	254	351	498
019	147	256	* 361	518
024	* 155	* 263	360R1	* 549
026	156	* 264	361R1	551R1
* 028	* 170	265	367	557
031	171	266	371	563
034	176	* 268	379	569
036	179	277	380	575
037	192	278	385	585
040	195	279	387	587
042	197	* 284	389	588
043	201	285	397	589
050	206	* 286	410	590
* 054	* 207	296	411	593
055	208	297	412	601R1
059	209	300	317R1	606
068	* 210	302	423	607
* 081	218	310	428	611
082	* 221	311R1	429	612
083	225	312R1	430	613
* 093	228	316	431	613R1
103	* 232	317	447	617
108	236	318	448	618
112	237	320	449	622
119	241	321	453	625
121	243	332	454	* 628
118	284	* 347	467	635
129	246	348	457R1	

\* Items audited, see Attachment 2-C

ATTACHMENT 2-C

Audited NYO NCRs

Total of 144 NYO NCRs required verification of disposition. A random sample for investigation follows.

1. - NCR 28, P.O. NY403509, C-3660-N, C3661-N
  - Verify UT was performed.
  - UT performed.
  - NCR closed prior to shipment.
2. - NCR 54, P.O. NY403487
  - Verify flux and other material removed from tray.
  - Reinspection performed.
  - NCR closed prior to shipment.
3. - NCR 81, P.O. NY403405
  - Wide gap weld.
  - Procedure required and reviewed without comment.
  - NCR closed prior to shipment.
4. - NCR 93, P.O. NY403439
  - NCR 93 superseded by W3-1518.
  - W3-1518 tracked until closure.
5. - NCR 133, P.O. NY430539
  - Confirm castings meet ND 2571 of ASME III ND.
  - NCR closed prior to shipment.
6. - NCR 155, P.O. NY403484
  - Verify conformance to ASTM standard for 2" 6-C70-28-1.
  - Item is non-safety/non-seismic per Purchase Order spec.
  - NCR closed.
7. - NCR 170, P.O. NY403509
  - Problem with heat treatment temperature.
  - Resolved through evaluation.
  - NCR tracked until closure.
8. - NCR 207, P.O. NY403578
  - Lakeside Steel to furnish shims.
  - Letter dated 12/18/78 states shim material provided to J. A. Jones. Problem resolved through NCR 210. As-Built installation verified by letter dated 12/18/78.
  - NCR tracked until closure.
9. - NCR 210, P.O. NY403578
  - See NCR 207.
  - NCR tracked until closure.
10. - NCR 221, P.O. NY403573
  - High silicon content.
  - Problem resolved.
  - NCR closed prior to shipment.

ATTACHMENT 2-C

(Continued)

- 11.- NCR 232, P.O. NY403583
  - Missing documentation.
  - Qualification reports accepted.
  - NCR tracked until closure.
- 12.- NCR 263, P.O. NY403483
  - Weld repair on end prep.
  - Part not used.
  - NCR closed prior to shipment.
- 13.- NCR 264, P.O. NY403483
  - Weld repair end prep.
  - Repair complete.
  - NCR closed prior to shipment
- 14.- NCR 268, P.O. NY403557
  - Confirm correct type motor supplied.
  - Confirmed.
  - NCR closed prior to shipment.
- 15.- NCR 284, P.O. NY403496
  - Missing documentation.
  - Reports accepted.
  - NCR tracked until closure.
- 16.- NCR 286, P.O. NY403583
  - Missing documentation.
  - Reports accepted.
  - NCR tracked until closure.
- 17.- NCR 347, P.O. NY 403613
  - Spray Booth doors require repair.
  - Repaired.
  - NCR closed.
- 18.- NCR 361, P.O. NY403557
  - Rev. 1 replaced - verify motor extension leads consist of acceptable material.
  - Verified by VQAR.
  - NCR closed prior to shipment.
- 19.- NCR 549, P.O. NY403640
  - Need to identify unique color on CWDs 2945, 2646.
  - CWDs issued.
  - NCR tracked until closure.
- 20.- NCR 628, P.O. NY403608
  - P.O. requires drop analysis.
  - Items received 5/21/81; NCR issued 11/10/83.
  - Problem not promptly identified.
  - NCR is being tracked.
  - NCR-628 superceded by SMP 84-133.
  - SMP 84-133 tracked until closure.

ATTACHMENT 3

Material Received at the Site Under Manufacture,  
Deliver and Erect Type Contracts

Scope

Deliver and Erect Purchase Orders and Contracts (Safety Related Only)

Purchase Orders:

NY403405

NY403508

NY403525

Contracts:

W3-F-6

W3-NY-4

W3-NY-17

W3-NY-23

W3-NY-27

Discussion

Deliver and Erect N.Y. Purchase Orders and Contracts

Due to the differing nature of each Deliver and Erect (D&E) purchase order and contract, the definition of the scope of research differed.

Essentially for each of the following, a review was performed to assure that problems identified on material, parts or components were tracked.

Deliver and Erect Purchase Order Review Scope and Results

NY403405; Chicago Bridge & Iron; Steel Containment Vessel; Safety Class 2/Seismic I

A review of all Ebasco Vendor QA Release for Shipment (form 1035), Vendor QA Release Reports (form 719) and Ebasco New York office reviewed NCRs was performed. Additionally, a review of the CB&I Non-Conformance Control List, Shop Release for Shipment Checklist and Site Receiving Inspection Reports was performed.

The review identified one Ebasco Release for Shipment (form 1305) which noted that 12 items required sandblasting at the site. The associated CB&I Release for Shipment form did not identify the condition and there are no CB&I records to support that sandblasting was done. Of the 12 items, 7 are embedded in concrete and did not require sandblasting. The remaining 5 items are part of the construction hatch storage rack located inside containment and would have been repainted had any coating distress appeared per NCR-W3-4825 (PRI-94). Furthermore, these 5 items are of small surface area. The failure of the coating of such small and scattered areas during a DBA would not be of any safety significance. In addition, there is no indication that any of these materials will have adverse interactions with engineering safety features.

ATTACHMENT 3

(Continued)

NY403508; Nooter Corporation; Fuel Pit and Canal Liners; Safety Class  
NNS/Seismic Class I

A review of all of the Ebasco Vendor QA Release for Shipment (form 1305) and Vendor QA Release Reports (form 719) was performed. All documentation for each fabricated item was also reviewed for inclusion of appropriate Ebasco QA review stamp and/or signature.

The review did not identify any problems which were not tracked and resolved.

NY403525; Chicago Bridge & Iron; Diesel Oil Storage Tanks; Safety  
Class/Seismic Class I

The safety related tanks on this order consist of the 1) - Diesel Oil Storage Tanks (2 each) and 2) - Diesel Oil Storage Feed Tanks (2 each).

A review of all of the Ebasco Vendor QA Release for Shipment (form 1305) and Vendor QA Release Reports (form 719) was performed. Additionally, a review of all documentation packages was performed which included the vendors Receiving Inspection Reports.

The review did not identify any problems which were not tracked and resolved.

Deliver and Erect Contracts

W3-F-6; Louisiana Industries; Concrete Supply and Delivery; Seismic I

W3-NY-4; J. A. Jones; Civil Erection; Concrete and Structural Steel

W3-NY-23; Sline Industrial Painting; Application of Nuclear Coatings and Painting; Nuclear Safety Related - Inside Containment Coatings

W3-NY-27; B&B; Installation of Penetration Radiation Seals, Fire Stops and Air Seals for Electrical, Mechanical and HVAC Systems;  
Non-Nuclear Safety - Fire Protection

The contracts listed above did not have QA programs which allowed for conditional releases. Upon receipt the material was inspected and documentation was reviewed or verified complete. Any discrepancies either in hardware or software required the material to be placed on hold, in a hold area or rejected as appropriate. The material remained unavailable for issue until the noted discrepancies were dispositioned and closed. Because of the contractor's programs only acceptable material was available for installation.

ATTACHMENT 3

(Continued)

W3-NY-17; The Waldinger Corporation; HVAC Ductwork, Supports and Accessories; HVAC Safety Class 1 (Safety Related/Seismic I), Class 2 (Non-Safety Related/Seismic 1), and Class 3 (Non-Safety Related/Non-Seismic)

A search was made of Waldinger Deficiency Reports generated at their shop in Des Moines. This search revealed 12 Shop DRs which were transferred to the jobsite for closure. Tracking and closure has been verified for all of these DRs. It should also be noted that subsequent to May of 1979 a 100% review of the Waldinger shop manufacturing records was performed by Ebasco QA Records personnel. Documentation deficiencies identified during the review were addressed and closed at that time.

## RESPONSE

ITEM NO: 7

TITLE: BACKFILL SOIL DENSITIES

### NRC DESCRIPTION OF CONCERN:

The staff found that records are missing for the in-place density test of backfill in Area 5 (first 5' starting at Elevation -41.25'). These documents are important because the seismic response of the plant is a function of the soil densities.

LP&L shall (1) Conduct a review of all soil packages for completeness and technical adequacy and locate all records and provide closure on technical questions, or (2) conduct a review of all soil packages for completeness and technical adequacy and where soil volumes cannot be verified by records as meeting criteria, perform and document actual soil conditions by utilizing penetration tests or other methods, or (3) Justify by analysis that the soil volumes with missing records, or technical problems as defined after the records review, are not critical in the structural capability of the plant under seismic loads.

### DISCUSSION:

LP&L has reviewed all soils packages for completeness and technical adequacy, has located the items found missing by the staff, has identified those soil volumes for which complete records were not found, and has justified by analysis that the structural capability of the plant under seismic loads is assured. A detailed engineering report has been prepared and attached to this response describing the review and analysis of the soil backfill densities, which reconfirms the adequacy of the backfill. This was also repeatedly demonstrated in the seven (7) statistical studies of backfill densities performed during the construction period, which showed good control of the work was achieved and specification requirements generally exceeded.

The following discussion is a summary of the findings of the attached report.

The design criterion for the backfill was to obtain a liquefaction free material at 75% relative density. To confirm compliance with this design criterion, a detailed three stage program was implemented to perform a review for completeness and analysis of backfill soil density and inspection reports for technical adequacy which verifies the structural capability of the plant under seismic loading conditions.

The program effort was conducted under the direction of the Ebasco Site Soils Engineer who was present during the performance of the majority of the actual backfilling operations. Two basic sets of evaluations were performed, the first on soil backfill test records, and the second on the corresponding inspection Reports.

During the Stage I effort, a detailed search was made of all locations containing soil backfill data. Additional test records and inspection reports were obtained from contractor and laboratory files and also Engineering, Laboratory and Quality Control indices and tabulations were retrieved.

Once the packages of soil data were located and collected, Stage II activities concentrated on a review of the documents for completeness and a compilation of the data into a format amenable to review of the NRC concerns.

Included in the review were each type of Inspection Report and each type of test record in the soil packages. It was determined that the complete set of test records and a nearly complete set of inspection reports had been located.

In direct response to the first paragraph of the Description of the NRC Concern, the data for the 34 in-place density tests performed in the first 5.5' of Class A fill placed in Fill Area #5 from Elevation -41.75 to EL -36.25, has been located.

Stage III activities consisted of engineering evaluation of the data gathered and organized in Stages I and II. The results of the Stage II and III evaluations for completeness and technical adequacy for both the test records and inspection reports are summarized as follows:

(A) EVALUATION OF TEST RECORDS

Test records deal with quantitative attributes of the fill such as density, moisture content and gradation. The test most indicative of quality is density, since it relates directly to liquefaction potential, however, the other attributes were also reviewed for acceptability.

Utilizing the complete package of backfill density records, overlay plots of relative density were constructed at each one foot interval of elevation during the Stage II effort. These documents represent a graphical plot of density test frequency and distribution, and tabulate and display the final insitu relative densities.

The Stage III review and evaluation of the technical adequacy of the Class A backfill to provide structural stability of the plant under seismic loadings was based upon a comparison of the design requirements as stated in the Ebasco Specification LOU-1564.482 with existing documentation and with the relative density plots prepared in this review. These plots are available in the Site Quality Assurance Records Vault. These plots demonstrate satisfaction of requirements for test frequency and distribution throughout the fill volume.

The evaluation included each type of test record required by the governing specifications and procedures and analyzed:

- The completeness of all test records
- The testing frequency and distribution of in place density tests
- The frequency of laboratory control tests
- The performance of statistical studies
- The Class A Backfill relative density



The results of these analyses are as follows:

- (1) The Class A backfill soil testing records are complete.
- (2) Field density and laboratory density and gradation tests were generally performed in accordance with the specified frequencies.

In less than 8% of the cases reviewed, the laboratory control tests were run at intervals slightly larger than the specified (one control set per ten field density tests) criteria. The backfill placed during these periods was randomly located throughout the fills and the relative densities obtained during these intervals were found to be in compliance with the specification requirements. This variance was therefore evaluated to be acceptable.

- (3) Field tests were located in accordance with the specified random distribution. In less than 5% of the tests reviewed, the location coordinates of the in-place density tests were found to be in error. These tests were still a valid indicator of the relative density of the backfill at a random spot at a known elevation in a known fill area and were therefore deemed to be acceptable tests.
- (4) Statistical studies of relative density were performed in accordance with the specification requirements.
- (5) The Class A backfill soil densities are in accordance with the specification requirements and will provide the required design structural capability to the plant under seismic loads.

(B) EVALUATION OF INSPECTION REPORTS

Inspection records generally deal with qualitative attributes of the fill such as proper preparation of the fill surface and cleanliness of fill received. Production-related quantitative information such as fill location, elevation and area are also provided.

During the Stage II review activity, the total file of inspection reports for Class A backfill was inventoried and combined into compatible soil packages. Included in the inventory were approximately 12,000 inspection reports ranging from EL -44 to EL+20 throughout all seven fill areas. The reports were grouped and compiled by fill location, elevation and placement date for each of the five types of inspection forms and summarized in several tabulations.

The evaluation of these inspection reports was divided into two phases: the evaluation of the inspection reports to determine their overall completeness, and the evaluation of the frequency and distribution of inspection reports to determine their content.

Two comparative analyses were performed to determine the relative completeness of the inspection documentation. The first analysis performed was a comparison of the quantity of inspection packages to testing packages throughout the fills, while the second compared the documented surface area of inspection to the total surface areas of the fill placement.

Once completeness of inspections was established, an additional analysis was performed to define the magnitude, the distribution and significance of the documentation found to be missing. This analysis evaluated the distribution of each type of inspection report by fill location and elevation, and determined types of missing documentation and the amounts of backfill by volume affected. The results of this analysis are as follows:

- (1) The distribution of the existing inspection documentation throughout the backfill is essentially identical to the distribution of the field testing effort, thus indicating a one to one relationship between inspection and testing activities. This is an expected trend since the inspection activity included ordering tests performed. It is therefore concluded that the inspection activity took place whenever tests are found and that missing inspection reports are not indicative of lack of inspection activity.
- (2) Eighty percent of the volume of the backfill has a sufficient quantity of each type of inspection report to fulfill the requirements of the specification and inspection procedures.
- (3) For the 20% of the volume of the backfill which was missing some of the required inspection reports, 16% has an average of 81% of the reports required, 3.8% has one or more type of inspection missing, and 0.2% clustered together in groups on three (3) fills has no inspection reports at all.

For details, see the Report, Section 4.B. and Table No. 2.

The effect on each of these types of deficiencies was evaluated based upon the quantity and type of inspection documentation existing above, below and around the affected fill areas, the relative density results in the affected areas and the relatively small volume of fill affected. It was concluded that the deficiencies found in the inspection documentation are most probably due to lost folders, are not indicative of a lack of inspection effort, and will have no effect on the structural capability of the plant under seismic loads.

#### CAUSE:

The cause of this concern was the fact that some of the field inspection and laboratory test records for the Class A backfill were still in the contractor's QA records vaults. This contractor is still active on site and had not initiated the transfer of documentation to the LP&L-Ebasco Quality Assurance Vault. All available soil records are now permanently stored in this vault.

#### GENERIC IMPLICATIONS:

Based upon the results of the detailed review and analysis of backfill soil densities and corresponding inspection reports described in the discussion above, the Class A backfill was found to be sufficiently in compliance with the specification requirements.

The large effort required to establish the completeness of the records is due to the intrinsic difficulty of scoping a bulk process such as backfill in the absence of an administrative control tool, such as a logbook of inspections, which was not required by the implementing procedures. This scoping problem is believed to be unique to the soils/backfill effort.

Difficulty in establishing records completeness also was due to incomplete records turnover from the onsite contractor involved. Therefore, a generic concern exists as to the extent to which there has been incomplete records turnover on the part of remaining site contractors. This is addressed in the CORRECTIVE ACTION PLAN below.

SAFETY SIGNIFICANCE:

Test records and inspection reports were located and analyzed demonstrating compliance with the specification. Therefore, the Class A backfill will perform its function with respect to structural design capability under seismic loads. LP&L therefore believes that this issue is of no safety significance with respect to fuel load, power ascension or operation.

CORRECTIVE ACTION PLAN/SCHEDULE:

The complete set of laboratory test records, along with the attached report and corresponding documents, has been transmitted to the LP&L-Ebasco Quality Assurance Records Vault.

An inventory of remaining site subcontractor records is being conducted to determine the extent of records in their possession which should be transferred to Ebasco. This inventory will provide a basis for assuring accessibility and retrievability of subcontractor records and ultimate turnover to LP&L in accordance with the established records turnover program. This effort will be completed by October 1, 1984.

ATTACHMENTS:

"Report on the Review and Analysis of Soil Backfill Densities" - NRC Concern No. 7.